

P-4.11 Predict the cost of operating an electrical device by determining the amount of electrical power and electrical energy in the circuit

Revised Taxonomy Level **2.5B** **Infer (predict) conceptual knowledge**

Key Concepts

Electrical energy

Electrical power

Students did not address this topic in physical science

It is essential for students to

- ❖ Determine the kilowatt-hours of electricity that a particular electrical device will use based on
 - the voltage of the line
 - and the wattage of the device
 - the amperage which the device draws
 - the time that the device is being used
- ❖ Determine the cost of a kilowatt-hour of electricity
- ❖ Predict the cost of using the device
- ❖ Determine the factors which influence the cost of a kilowatt hour of electricity
- ❖ Predict the cost of using the same device under varying conditions.

Assessment

As the verb for this indicator is Infer (predict) the major focus of assessment should be for students to draw a logical conclusion from presented information. Because the indicator is written as conceptual knowledge, assessments should require that students understand the “interrelationships among the basic elements within a larger structure that enable them to function together.” In this case, assessments must show that students understand how the voltage of the line, the wattage of the device, the time that the device is operating, and the factors affecting the price of electricity affect the cost of using a familiar electric device.